

to Cuba, Florida and Yucatan, Central America, Mexico and California, Sandwich Islands, Loochoo Islands and Japan, and thence across Asia and Africa to Liberia, and suggests, in view of these facts and other localities on record, that the trade-winds have promoted this distribution. Among the other localities are the Society Islands, Feejees, Friendly Islands, New Caledonia, Eastern Australia, Mauritius, Madagascar, and several parts of South America. He refers to a fact stated by Darwin, that at a distance of sixty miles from land, while the 'Beagle' was sailing before a steady light breeze, the rigging was covered with vast numbers of small spiders with their webs, each, when first coming into contact with the rigging, seated upon a single filament of spider-web, and so slenderly, in some cases, that a single breath of air was found to bear them out of sight. Mr. M'Cook states that the specimens examined by him show *no variations* which may not be accounted for "by differences in age, or which may not come within those ordinary natural differences which all animals more or less exhibit." But most of the specimens had lost their colours in the alcohol in which they were preserved.—*Proc. Acad. Nat. Sci. Philad.* 1878, p. 136.

*On the Relation of Amœba quadrilineata and Amœba verrucosa.*

Prof. Leidy stated that the small but characteristic amœboid form originally described by Mr. Carter (*Ann. & Mag. Nat. Hist.* 1856, xviii. p. 243) as *Amœba quadrilineata*, from specimens found in Bombay, he had repeatedly observed from many positions in our vicinity. In association with it he had noticed the singularly sluggish *Amœba verrucosa*, and also many intermediate forms, which led him to the belief that the former was the young of the latter. Subsequently, in reviewing the literature of the matter, he had been gratified to learn that Mr. Carter had arrived at the same result from a different point of view. In investigating the history of *Amœba verrucosa*, he found that its germs yielded young of the character he had previously described as *Amœba quadrilineata* (*Ann. & Mag. Nat. Hist.* 1857, xx. p. 37).

The forms described by Perty as *Amœba natans* (*Kennt. kleinst. Lebensformen*, 1852, p. 188), by Greeff as *Amœba terricola* (*Arch. mikr. Anat.* 1866, p. 299), and by Fromentel as *Thecamœba quadripartita* ('*Études Microzoaires*,' p. 346), he suspected to be the same as *Amœba verrucosa*.—*Proc. Acad. Nat. Sci. Philad.* April 1878.

*On the Fossil Mammalia of South America.* By M. P. GERVAIS.

Collections from the province des Mines, in Brazil, and from the Argentine Republic have recently been brought to Paris by MM. Ameghino, Brachet, and Larroque; and the author gives the following statement of some of the results of his examination of them.

With regard to *Toxodon*, he is able to add new details to those which we possessed upon this gigantic Mammal, the affinity of which with the Poreine Mammals now appears to him beyond doubt. Its habits must have been similar to those of the Hippopotami; but the singularity of its characters, which, however, are not foreign to those which distinguish those great Pachyderms of the Old World, must indicate more intimate allies still unknown.

The Jumentés have no well-marked representatives among the fossils of the region of La Plata, except the Horses known as *Hippidia*. With these, no remains of Tapirs have been found; but a fragment of a mandibular symphysis, still bearing the traces of two canines between which two incisors were implanted, would seem to indicate an animal resembling the Rhinoceroses, at least as regards this part of its dental formula.

A large *Machairodus*, resembling in its size and the great development of its upper canines the Brazilian *Machairodus neogaeus* (*Felis smilodon*, Blainv.), nevertheless seems to form a distinct species, judging from differences in the form of the skull, and the number of its lower molars, of which there were only two, instead of three. It may be called *Machairodus necator*. M. Larroque has the skeleton of this animal nearly complete.

A more complete comparison of the carapaces of several species of Glyptodonts, and of certain parts of the skeleton of these animals, confirms their separation into several genera proposed by Burmeister, and shows that the number of species was certainly more than ten.

One of the Glyptodonts previously brought over by M. Seguin has not yet been described. Its bony plates are quadrangular, rough on the outer surface, but without rosaciform tubercles, and without rays. The rings of its caudal sheath are formed of separate pieces, the interlockings (*guillochures*) of which resemble those of the dorsal pieces. This Glyptodont, of which the cephalic armature has also been brought, will no doubt constitute a distinct genus. It was discovered in the province of Santa-Fé; and the author for the present gives it the name of *Glyptodon rudis*.

Another undescribed species is more allied to *Hoplophorus*, but differs from the known species of that genus by its plates, which are composed of a smooth central disk of polygonal form with very blunt angles, and bearing on its sides smaller smooth plates in the form of arcs of a circle. This *Hoplophorus*, of which only a small fragment is known, is named by the author *H. discifer*; it is in M. Ameghino's collection.

The author adds that M. Ameghino has brought home a considerable number of objects of human workmanship, both in bone and stone, produced by the first inhabitants of the Argentine Territory, Some of these specimens appear to him to date back to the period of the great Mammals, in which case they will furnish fresh evidence of the coexistence of man with extinct animals.—*Comptes Rendus*, June 3, 1878, p. 1359.